

2009-01-28 [20010-06USA] Sequence Listing_ST25
SEQUENCE LISTING

<110> POSCO
POSTECH Foundation
CHA, Hyung Joon
HWANG, Dong Soo

<120> Mussel Bioadhesive

<130> 20010-06USA

<140> 10/599,313
<141> 2006-08-25

<150> US 60/556,805
<151> 2004-03-26

<150> PCT/KR2005/000888
<151> 2005-03-25

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<170> PatentIn version 3.5

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<220>
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<220>

<223> primer

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<223> Mytilus galloprovincialis

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ggtagttatc acggatccgg ctatcatgga ggatataagg gaaagtatta cggaaaggca

120

aagaaatact attataaata taaaacagc ggaaaataca agtatctgaa gaaagctaga

180

aaataccata gaaagggtta caagaagtat tatggaggtg gtagcagt

228

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<211> 76

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<223> Mytilus galloprovincialis

<400> 6

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20 25 30Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
35 40 45Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
50 55 60Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser
65 70 75

<210> 7

<211> 180

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<213> Artificial Sequence

<220>

<223> mytilus edulis

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gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttaccccc gacttataaa 180

<210> 8

<211> 60

<212> PRT

<213> Artificial Sequence

<220>

<223> mytilus edulis

<400> 8

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
1 5 10 15Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
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35 40 45Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

<210> 9

<211> 411

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<223> Bioadhesive protein(mgfp-150)

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gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttaccccc gacttataaa 180

agttctgaag aatacaaggg tgggtattac ccaggcaatt cgaaccacta tcattcaggt 240

ggtagttatc acggatccgg ctaccatgga ggataaagg gaaagtatta cggaaggca 300

aagaaatact attataaata taaaacacgc ggaaaataca agtatctaaa gaaagctaga 360

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<212> PRT

<213> Artificial Sequence

<220>

<223> Bioadhesive protein(mgfp-150)

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Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
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Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe
130 135

<210> 11

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Bioadhesive protein(mgfp-051)

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aagaaatact attataaata taaaacagc ggaaaataca agtatctaaa gaaagctaga 180

aaataccata gaaagggtta caagaagtat tatggaggta gcagtgaatt cgctaaaccg 240

tcttaccgc cgacctacaa agcaaaacc tcgtaccac cgacttataa ggctaaacct 300

agctatccac ctacgtacaa agctaaaccg tcttaccgc cgacttataa agcaaaaccg 360

tcctaccctc cgacctataa ggctaaaccg agttaccccc cgacttacaa a

411

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 <213> Artificial Sequence

<220>
 <223> Bioadhesive protein(mgfp-051)

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Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His
 1 5 10 15

Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr
 20 25 30

Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys
 35 40 45

Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg
 50 55 60

Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro
 65 70 75 80

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
 85 90 95

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
 100 105 110

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala
 115 120 125

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
 130 135

<210> 13
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 <223> Bioadhesive protein(mgfp-151)

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gctaaaccta gctatccacc tacgtacaaa gctaaaccgt cttaccgcg c gacttacaaa 120

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gcaaaaccgt cctaccctcc gacctataag gctaaaccga gttaccccc gacttacaaa 180
 agttctgaag aatacaaggg tgggtattac ccaggcaatt cgaaccacta tcattcaggt 240
 ggtagttatc acggatccgg ctaccatgga ggatataagg gaaagtatta cggaaggca 300
 aagaaatact attataata taaaaacagc ggaaaataca agtatctaaa gaaagctaga 360
 aaataccata gaaagggtta caagaagtat tatggaggta gcagtgaatt cgctaaaccg 420
 tcttaccgcg cgacctacaa agcaaaaccc tcgtaccac cgacttataa ggctaaacct 480
 agctatccac ctacgtacaa agctaaaccg tcttaccgcg cgacttataa agcaaaaccg 540
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<210> 14
 <211> 197
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Bioadhesive protein(mgfp-151)

<400> 14

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro
 1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys
 20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
 35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu
 50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
 65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
 85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
 100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
 115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
 130 135 140

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Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
145 150 155 160

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
165 170 175

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
180 185 190

Pro Pro Thr Tyr Lys
195

<210> 15
<211> 339
<212> DNA
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<220>
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atgggtcggg ctctgtacga cgtacgacat aaggatcgat ggggatccga gctcgagatc 120
tgcagcagtt ctgaagaata caagggtggt tattaccag gcaattcgaa ccactatcat 180
tcaggtggta gttatcacgg atccggctac catggaggat ataagggaaa gtattacgga 240
aaggcaagaa aatactatta taaatataaa aacagcggaa aatacaagta tctaaagaaa 300
gctagaaaat accatagaaa gggttacaag aagtattat 339

<210> 16
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive recombinant protein expressed in pMDG05 vector

<400> 16

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

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Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr
100 105 110

Tyr Gly Gly Ser Ser
115

<210> 17
<211> 435
<212> DNA
<213> Artificial Sequence

<220>
<223> construct for expression of Bioadhesive protein(mgfp-150) in pMDG150 vector

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ccgacctaca aagcaaaacc ctctgaccca ccgacttata aggctaaacc tagctatcca 120
cctacgtaca aagctaaacc gtcttaccgg ccgacttaca aagcaaaacc gtcttaccct 180
ccgacctata aggctaaacc gagttacccc ccgacttaca aaggctgcag ttctgaagaa 240
tacaagggtg gttattaccc aggcaattcg aaccactatc attcagggtg tagttatcac 300
ggatccggct accatggagg atataaggga aagtattacg gaaaggcaaa gaaatactat 360
tataaatata aaaacagcgg aaaatacaag tatctaaaga aagctagaaa ataccataga 420
aagggttaca agaag 435

<210> 18
<211> 151
<212> PRT
<213> Artificial Sequence

<220>
<223> Bioadhesive recombinant protein expressed in pMDG150 vector

<400> 18

Met Gly Gly Ser His His His His His Gly Met Ala Ser Ala Lys
1 5 10 15

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
20 25 30

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Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser
35 40 45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50 55 60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu
65 70 75 80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
100 105 110

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
130 135 140

Lys Tyr Tyr Gly Gly Ser Ser
145 150

<210> 19

<211> 531

<212> DNA

<213> Artificial Sequence

<220>

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pMDG051 vector

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atgggtcgga ctctgtacga cgatgacgat aaggatcgat ggggatccga gctcagatc 120

tgcagcagtt ctgaagaata caaggtgggt tattaccgag gcaattcgaa ccacatcatc 180

tcaggtggta gttatcacgg atccggctac catggaggat ataagggaaa gtattacgga 240

aaggcaaaaga aatactatta taaatataaa aacagcggaa aatacaagta tctaagaaaa 300

gtagaaaaat accatagaaa gggttacaag aagtattatg gaggtagcag tgaattcgct 360

aaaccgtctt acccgccgac ctacaaagca aaaccctcgt acccaccgac ttataaggct 420

aaacctagct atccacctac gtacaaagct aaaccgtctt acccgccgac ttacaaagca 480

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<210> 20

<211> 179

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<212> PRT

<213> Artificial Sequence

<220>

<223> Bioadhesive recombinant protein expressed in pMDG051 vector

<400> 20

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1 5 10 15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys
35 40 45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser
50 55 60

Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly
65 70 75 80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys
85 90 95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr
100 105 110

Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
115 120 125

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
130 135 140

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala
145 150 155 160

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro
165 170 175

Thr Tyr Lys

<210> 21

<211> 639

<212> DNA

<213> Artificial Sequence

<220>

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cctacgtaca aagctaaaacc gtcttaccgg ccgacttaca aagcaaaacc gtccctacctt      180
ccgacctata aggctaaaacc gagttacccc ccgacttaca aaggctgcag ttctgaagaa      240
tacaagggtg gttattaccg aggcaattcg aaccactatc attcagggtg tagttatcac      300
ggatccggct accatggagg atataaggga aagtattacg gaaaggcaaa gaaatactat      360
tataaatata aaaacagcgg aaaatacaag tatctaaaga aagctagaaa ataccataga      420
aagggttaca agaagtatta tggaggtagc agtgaattcg ctaaaccgtc ttaccgcgg      480
acctacaaag caaaaccctc gtaccaccgg acttataagg ctaaacctag ctatccacct      540
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<210> 22
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<220>
<223> construct for expression of Bioadhesive protein(mgfp-151) in
pMDG151 vector
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Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr
20          25          30

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser
35          40          45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys
50          55          60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu
65          70          75          80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly
85          90          95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr
100         105         110
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Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys
130 135 140

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro
145 150 155 160

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro
165 170 175

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr
180 185 190

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr
195 200 205

Pro Pro Thr Tyr Lys
210

<210> 23
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<213> Artificial Sequence

<220>
<223> primer

<400> 23
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28

<210> 24
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 24
ggtagcactca agcttatcat ttgtaagtcg

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<210> 25
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> mytilus edulis

<400> 25

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1 5 10

<210> 26
<211> 30
<212> DNA
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<220>
<223> Mytilus edulis

<400> 26
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<220>
<223> Mytilus edulis

<400> 27
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<210> 28
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<212> DNA
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<223> Mytilus edulis

<400> 28
gctaaaccta gctatccacc tacgtacaaa 30

<210> 29
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<212> DNA
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<220>
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<400> 29
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<210> 30
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<212> DNA
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<220>
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<400> 30
gcaaaaccgt cctaccctcc gacctataag 30

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